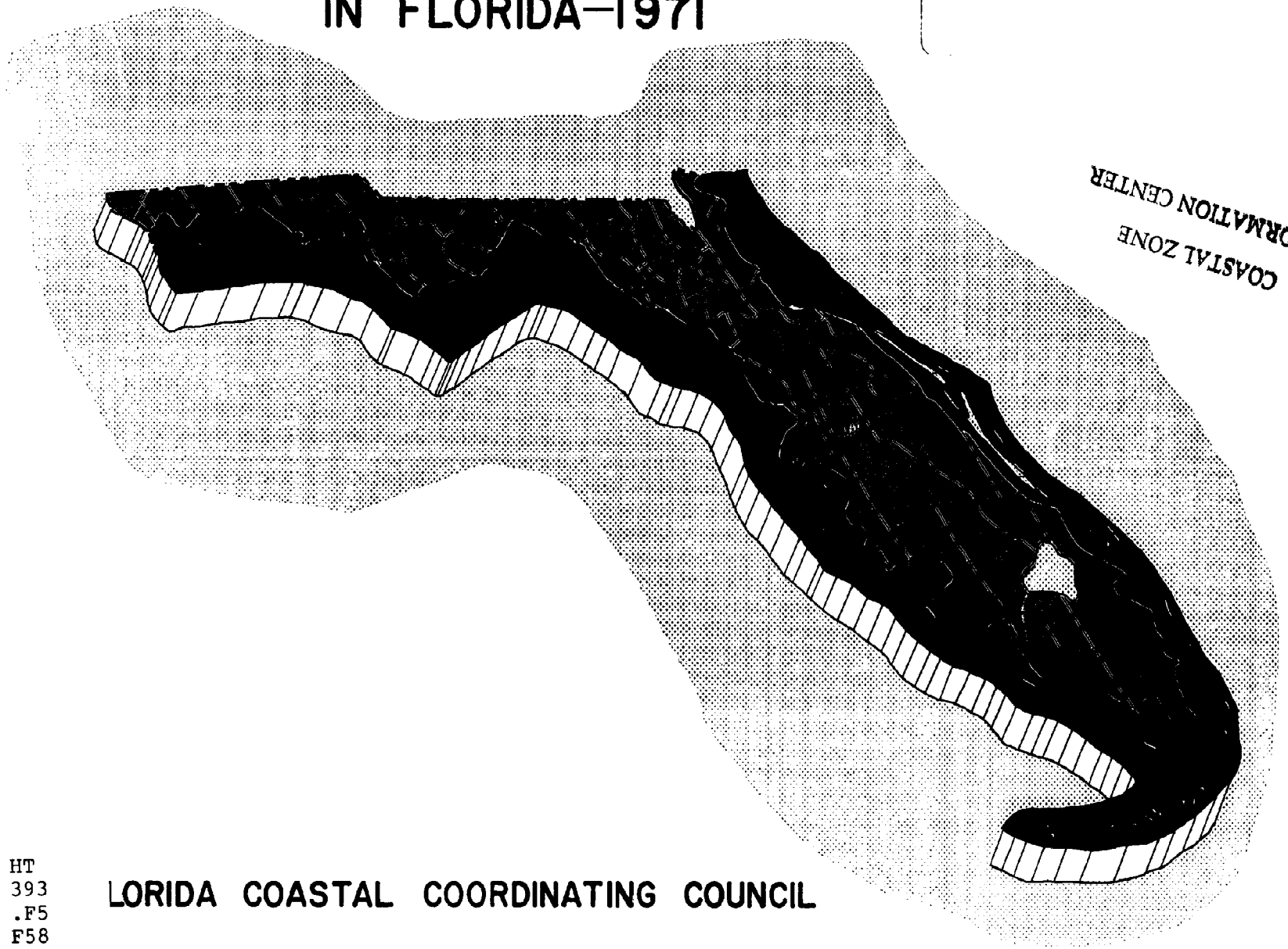
COASTAL ZONE MANAGEMENT IN FLORIDA—1971

Grant # 04-4-158-50018
Attachment II



LORIDA COASTAL COORDINATING COUNCIL

DECEMBER, 1971

COASTAL ZONE MANAGEMENT IN FLORIDA – 1971

A Status Report to the Governor, the Cabinet and the 1972 Legislature

Presented by the Florida Coastal Coordinating Council

December 1971

FLORIDA COASTAL COORDINATING COUNCIL

COUNCIL: Randolph Hodges, Chairman
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Department of Natural Resources

Joel Kuperberg
Executive Director
Trustees of the Internal Improvement Trust Fund

Vincent D. Patton
Executive Director
Department of Pollution Control

STAFF: W. Bruce Johnson, Coordinator
Fred R. Barloga, Research Coordinator
Thomas D. Walker, Agency Coordinator
Mary Lou Stursa, Information Coordinator
Louis C. Burney, Planning Coordinator
Lawrence D. Bobo, Coastal Planner
Terry E. Lewis, Coastal Planner
Wayne T. Ashmore, Cartographer
Rose M. Harvey, Administrative Assistant

Room 682, Larson Building
Tallahassee, Florida
32304

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1971

Abstract

The planning for Florida's coastal zone management program has been assigned, under present statutes, to the Florida Coastal Coordinating Council. A pilot study area for the coastal zone management plan was selected in Escambia-Santa Rosa counties in the western Panhandle centered on Pensacola. The inland extent of the coastal zone has been delineated by means of Census Enumeration Districts selected on the basis of terrestrial areas influencing the adjacent waters. In Escarosa, this zone varies from 2.5 to 16.5 miles inland from estuarine waters. The seaward extent of the zone includes the territorial sea and is 9 n. miles from the M.L.W. line of the Gulf of Mexico shoreline.

A suggested state zoning system is proposed for land and water areas utilizing the three basic categories of "Preservation" (no further development), "Conservation" (limited development permitted), and "Development" (suitable for intensive development). "Preservation" areas would protect ecologic units of sensitive flora and fauna as well as areas of dunes, marshes and swamps. "Conservation" areas would include hurricane and flood plain zones usable for parks, open space, greenbelts, and other non-intensive uses. "Development" areas would include those lands with soils and topography suitable (or suitable with minor corrections) for intensive development. The geographic extent of each category in the pilot area has been mapped using aerial photography, soil surveys, topographic maps, and spot field checks. Totals for land zoning categories in Escarosa are: Preservation—6.5%; Conservation—30.5%; and Development—63%. Environmental aspects and uses for each Preservation and Conservation category are enumerated. Although detailed zoning in Development areas is recommended to be left primarily to local and county authorities, "key facilities" and shoreline use zoning would be subject to criteria established by the Coastal Coordinating Council.

Introduction

The coastal zone of Florida is the state's most important and valuable asset. It contains the richest and most diverse combination of plants and animals, is the focus of our industrial and economic activity, and attracts the vast majority of our visitors and new residents. In fact, over 70 per cent of our population is concentrated in only 16 coastal counties and these, for the most part, are clustered along the narrow coastal fringe of the counties. If present trends continue, the coastal counties will contain over ten million residents by the year 2000—only a generation away.

This growth, however, is not without side effects. Man does not hold a monopoly on the coastal zone; he is, in fact, an intruder into an area that, through the functioning of countless natural checks and balances and millions of years of evolution, became one of the most biologically productive areas on earth. But the fragile strands that make up the web of checks and balances were woven by forces of nature, without interference by man. Thus, when the weight of man's activities are thrust upon one strand, repercussions are often felt in portions of the web quite remote from the area acted upon and may remain unseen until other strands break under the stress. The end result can be the complete collapse of entire systems.

The wide range of effects of man's activities in our coastal zone is amply illustrated throughout Florida. Attempts at flood control and land development have amplified water shortages and degraded water quality in the Everglades basin and pose a threat to estuarine resources dependent upon fresh water of the proper amount, quality and timing. Escambia Bay suffers repeated massive fish kills because of secondary effects of man's activities. Boca Ciega Bay was sacrificed for houses. Miami River, Lake Worth, Banana River, and the St. Johns are open sewers, in danger of being destroyed completely. Many major shellfish beds are still unsafe to utilize; others have been killed outright. Once popular swimming areas can no longer be used. Development has caused severe erosion of many of our once-beautiful beaches. . . . The list goes on and on, interrupted occasionally by uncoordinated stop-gap remedies instituted by single-purpose agencies.

The solutions to these problems do not require condemnation of all developers and industry. Neither do they call for a house cleaning of all governmental agencies. What they do call for, however, is an awareness of the trends that have developed, anticipation of consequences resulting from the trends, and the creation of a system for altering trends toward more favorable end products.

The President's National Goals Research Staff addressed themselves to the issue in their July 1970 Report:

> "The major lesson to be extracted from the substantive problems reviewed here is the high desirability of an explicit growth policy with a relatively long-range perspective. In instance after instance, it was found that today's problems are the result of successes defined in yesterday's terms. The object lesson has not been that our institutions are incapable, but that in the past we set performance criteria for them in terms now recognized as too narrow but which at one time were appropriate. We have become widely aware of the second order consequences of our actions and we have demonstrated our resolution to take them into account when we can anticipate them. What we need is increased ability to

anticipate those consequences and an explicit policy framework within which to evaluate them."

The National Goals Research Staff was viewing the situation from a national perspective, but its conclusions are very applicable to Florida's coastal zone. These findings are reinforced by those of the President's Commission on Marine Science, Engineering and Resources, which addressed itself to the broad array of marine problems ranging from the preservation of our coastal shores and estuaries to more effective use of the vast resources that lie within and below the sea. In their final report to the President and Congress in 1969 ("Our Nation and the Sea"), they concluded:

"The key to more effective use of our coastland is the introduction of a management system permitting conscious and informed choices among development alternatives, providing for proper planning, and encouraging recognition of the long-term importance of maintaining the quality of this productive region in order to ensure both its enjoyment and the sound utilization of its resources. The benefits and the problems of achieving rational management are apparent. The present Federal, State and Local machinery is inadequate. Something must be done."

This need for a management system—one which would incorporate marine resources management techniques, land use planning and controls, port and harbor requirements, an improved, coordinated system of laws ensuring environmental protection and enhancement, an adequate role for local interests and enforceable state and federal guidelines—has recently been recognized by the Congress, federal agencies, and a number of the coastal states. Now, federal and state money is required to finance the necessary planning, equipment and people to do the job.

Pending Federal Legislation

As a result of the widespread, favorable response to "Our Nation and the Sea", national coastal management legislation has been considered during the past two sessions of Congress. The Hollings bill (S. 582) appears to be closest to passage and is sponsored by 31 senators, including both Gurney and Chiles from Florida. Moreover, it is supported by the Coastal States Organization (26 states and territories), which was formed in Florida in 1969 to ensure that marine and coastal matters of interest to the various states were given proper attention in Congress and by the federal agencies. During the writing of this report, the bill was passed "unanimously" out of the full Senate committee and is now on the floor of the Senate awaiting final vote.

The Hollings bill, known as the "National Coastal and Estuarine Zone Management Act of 1971", would require each coastal state to submit a coastal management plan to the Secretary of Commerce for his approval. This plan would have to include an inventory of resources and demonstrate how the state would directly control land and water uses. The bill also requires public hearings in development of the management program, the Governor's approval of the plan developed, and the designation of a single state agency to receive and administer supportive federal grants. Federal funding would be available for planning purposes up to $1,200,000 for any one state (2/3 federal—1/3 state matching funds). If the state plan is approved by the Secretary of Commerce, an additional sum, not to exceed $5,000,000 per state (federal two-thirds share), would be available to establish a management system. There is also a provision for 50-50 funding to buy up "estuarine sanctuaries" for preservation and research purposes.

Recent Actions in Other States

In the past few months, some coastal states have taken drastic actions on their own to protect their coastal resources to the point of restricting or entirely excluding industrial development, even in economically depressed areas. They have taken the option to protect the natural environment and enhance the recreational and tourism potentials and have rejected the option for additional tax revenues and employment opportunities represented by industrial development. For instance, Maine turned down a $150-million oil refinery on Penobscot Bay, which would have created 450 jobs directly and many more indirectly. South Carolina vetoed a $200-million petrochemical complex to be located near Hilton Head Island, and the town council of Tiverton, Rhode Island rejected an oil refinery that represented $1-million in local taxes to the town and some 150 jobs. All three of these examples were in economically depressed areas.

Taking even more drastic action, Delaware has enacted the State Coastal Zone Act of 1971, which prohibits any further development in its coastal zone for heavy industry such as pulp paper mills, steel manufacturing, chemical plants, oil refineries or bulk offshore transfer facilities. This immediately stopped plans for a giant Shell Oil Company refinery and a major bulk offshore transfer facility proposed by a thirteen-company consortium, with the consequent loss of substantial tax revenue and jobs. Similarly, Michigan has passed a shoreline land use control bill, as has Wisconsin. In addition, Massachusetts has passed protective legislation to zone its tidal marshes as conservation areas not open to development and Washington has passed a stringent Coastal Management Act. In Oregon, where public sentiment has favored preservation of natural amenities, the state has moved to ensure public access to its beaches and to exclude any development seaward of a coastal setback line.

Florida's Present Situation

The state now has a number of tools that can be utilized in a complete coastal management system. These tools, although inadequate in several respects, provide Florida with a relatively good foundation upon which to build. Some of the primary tools include:

- State control of most submerged lands and water column use—results in permits and/or leases for such activities as bulkheading, dredge and fill, marinas, aquaculture, or living and non-living resource extraction.
- Beach development control—designed to prevent construction practices, even on private property, which might induce or accelerate erosion of Florida's beaches.
- State establishment of water quality standards—this action is beginning to have very wide-ranging repercussions on coastal development, for any activity that may degrade surface water quality is subject to regulation.
- State establishment of special use areas—includes the Aquatic Preserve System, State Wilderness System, Parks, and Wildlife Refuges.
- Enforcement arms available through the Department of Natural Resources "Marine Patrol", the Department of Pollution Control, and the Game & Fresh Water Fish Commission.
- Significant state coastal research capabilities in the Department of Natural Resources, the Department of Pollution Control, and in the Division of Health.

In spite of the many tools with which Florida has to work, it has become apparent that past coastal zone management efforts simply are not adequate to the task. There are several reasons for this, but the primary ones are that past efforts, for the most part, have been too narrow in scope, uncoordinated, and reflect the limited interest of the individual agencies involved. They have primarily been reactions to problems that already exist.

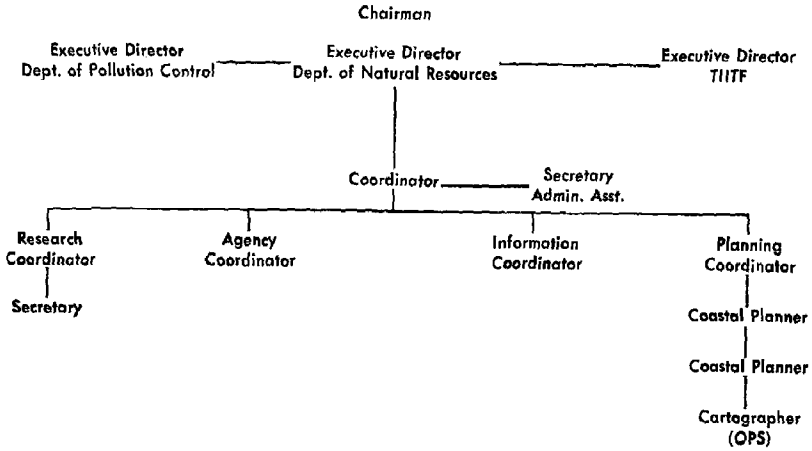
There has never been a serious attempt in Florida to analyze at the state level the resources of our coastal zone, the demands on those resources, and to comprehend the interfaces between various land uses, water uses and the natural environment. Such analysis and understanding is a basic step toward realizing orderly development and optimum use of our coastal areas.

Role of the Coastal Coordinating Council

The Florida Coastal Coordinating Council, which was created by the 1970 Florida Legislature, unites in one body the directors of the three state departments with primary concern for the coastal environment, namely, the Department of Natural Resources, Department of Pollution Control and the Trustees of the Internal Improvement Trust Fund. The Executive Director of the Department of Natural Resources serves as chairman. The Council, which has its own staff (see Figure 1), has four primary assignments: (1) develop a comprehensive coastal zone management plan for Florida, (2) coordinate state coastal zone research, (3) coordinate federal, state and local agencies with responsibilities in the coastal zone, and (4) act as a clearinghouse for coastal zone information.

The key words in these charges are research, coordination and plan. Accomplishment of these tasks will allow the state to make crucial policy decisions based on facts, in advance, rather than reacting to individual problems after they occur. It is important to note that, even though the Council is placed under the Department of Natural Resources, it is inter-departmental in its functioning. This allows maximum input from those agencies having a direct interest in the coastal zone, yet prevents domination by any one interest group. It is also important to note that the Council's efforts involve a continuous program, rather than being stop-gap in character. Table I contains a listing of Coastal Coordinating Council accomplishments.

Figure 1. ORGANIZATIONAL CHART
COASTAL COORDINATING COUNCIL



**For resumes of the personnel now holding the staff positions, see Appendix II.

TABLE I: ACCOMPLISHMENTS
COASTAL COORDINATING COUNCIL
OCT. 1, 1970—NOV. 1, 1971

COASTAL PLANNING	RESEARCH COORDINATION	AGENCY COORDINATION	INFORMATION SERVICE
Development and adoption of general guidelines for coastal zone planning.	Identification and priority listing of the state's most pressing coastal zone research needs.	Identification of and liaison with all state agencies involved with the coastal zone of Florida.	Publication of a monthly newsletter (circ. 775).
Delineation of the Florida coastal zone based on Census Enumeration Districts.	Research contracts negotiated to develop new knowledge in the fields of: —Coastal zone land use and management. —Coastal zone amenities and aesthetics. —Coastal zone planning. —Oceanography. —Marine ecology. —Coastal zone law.	Identification of and liaison with federal agencies involved with Florida's coastal zone.	Establishment of a coastal zone library/ information center.
Creation of special purpose maps for soils, wetness, permeability, vegetation, shoreline use, intrinsic suitability, and recreation.		Advice to regional, county, and city planning organizations in the field of coastal zone management.	Development of an inventory of existing resource inventories.
Preparation and publication of "Escarosa: A Preliminary Study of Coastal Zone Management Problems. . . ."	Liaison with Governor's Conference on Science & Technology.	Testimony on behalf of coastal zone legislation before Congressional & State Legislative Committees.	Development of a selected bibliography on thermal discharges.
Development of a coastal zone management rationale through use of three basic land and water use categories: Preservation, Conservation & Development.	Liaison with university staffs and private consultants with expertise in coastal zone research specialties.	Compilation of state permitting procedures for coastal zone activities.	Monitoring of federal & other states' coastal zone activities through the Coastal States Organization & contact with Florida's congressional delegation.
Utilization of 1970 census data by EDP through SYMAPS project.	Liaison with governmental and private funding sources for coastal zone research.	The Governor's representative for the State of Florida to the Coastal States Organization.	Development of a mailing list and contact register of people with expertise in coastal zone matters.

In order to carry out its charges, the Council adopted a set of general guidelines to be used in management efforts in the coastal zone. These are as follows:

- The Coastal Coordinating Council is to be considered the future coastal zone authority for Florida as the term is used in pending federal legislation.
- The principal consideration in all coastal resource use allocations will be maintenance and, where indicated, improvement of environmental quality.
- Public interest will be the primary consideration against which all uses will be measured.
- Policies and criteria will be established to provide joint use of resources by compatible activities and for allocation of exclusive use by non-compatible activities.
- All criteria established for allocation of coastal resources will provide for maximum retention of options for the future.
- The Florida Coastal Zone Master Plan will promulgate policy and criteria as guidelines for regional and local planning for allocation of local coastal resources.

The CCC's Approach to Coastal Planning

Past resource-use planning has lacked coordination, comprehensiveness and follow through. It has generally been centered around straight-line projections of population growth trends and per capita needs. After projecting these needs to a certain point in time, we have usually tried to determine the most technically and economically feasible method of meeting the demands, whether it be inter-basin transfer of municipal water supplies, creation of reservoirs, construction of highways, acquisition of recreation lands, or development of nuclear power plants. The President's National Goals Research staff addressed itself to the results of such actions:

> "Historically we have tended to do that which was technically possible, if it were economically advantageous, on the simple ground that this represented 'progress'. However, as technology has increased with great rapidity, it has forced on us increasing unplanned social and environmental problems we did not anticipate and do not want."

This procedure is problem solving by reaction, or at best by projection, and has been a major cause for many of Florida's social and environmental ills.

Realizing that planning on the basis of projected population increase, or on contemplated increase, is fraught with a multitude of built-in perils, the Council has decided to attempt a relatively new approach to the problem. This approach does not concern itself primarily with anticipated conditions by the year 2000 or any other time frame. Rather, it attempts to determine the type and degree of use that the various portions of the coastal zone can withstand without degradation of its basic resources. With this approach, planning will consider the "optimum" conditions and then support measures which will help obtain them, whether it be city size and shape, population distribution, or direct allocation and use of resources.

Unlike previous planning approaches that often actually encouraged continuation of past trends and subsequent unnecessary destruction of resources, the Council's approach attempts to alter trends by identifying those areas especially sensitive to development; those areas where limited development is compatible; those areas where carefully guided intensive development can occur without serious consequences. By basing plans on the use tolerance of the land and water resources, and providing a mechanism for analyzing and solving conflicts, serious second and third order consequences of development can be avoided or at least anticipated by those responsible for decision-making at the various levels of government within our coastal zone.

Delineation of the Florida Coastal Zone

One of the first problems encountered by the Council was to decide on a working definition of Florida's coastal zone. As defined in the enabling state bill, "coastal zone means that area of land and water from the seaward territorial limits to the most inland extent of maritime influences." Speaking in very general terms, this definition seems fairly reasonable. But speaking in terms of coastal zone management, such an area defies delineation. If maritime influences on the atmosphere are considered, this area would include all of Florida. If considerations are restricted to the most inland extent of salt water surface flow, then management efforts are far too narrow in scope. It is obvious that, for working purposes, the most favorable boundary location lies somewhere between these two extremes. Ideally, from an ecological standpoint, this border should be defined in physical terms. However, research soon revealed that a region defined in terms of drainage basins, flood zones, ancient shorelines, saltwater-freshwater interface, or any other strictly physical consideration does not have compatible socio-economic data. Such data is an absolute necessity if man's activities are to be considered in the management program. Also, definitions based on physical features usually require time-consuming and expensive surveys to locate the boundaries on the ground.

Lengthy research revealed that the most practical method for defining the coastal zone is to use physical features in combination with boundaries of areas for which socio-economic data is readily available. On this basis, then, it was decided to use physical characteristics in combination with boundaries of selected Census Enumeration Districts. Defined in this way, Florida's coastal zone has an inland boundary varying from two to twenty-five miles from the coastline, with the seaward boundary being the limit of Florida's territorial sea. (Figure 2).

The use of such a definition allows planners to utilize over 400 data items such as population totals and distribution, housing and income patterns, etc. No other system of defining the coastal zone has as much flexibility or allows such ease in utilizing available data and computer support.

Pilot Study Area—"Escarosa"

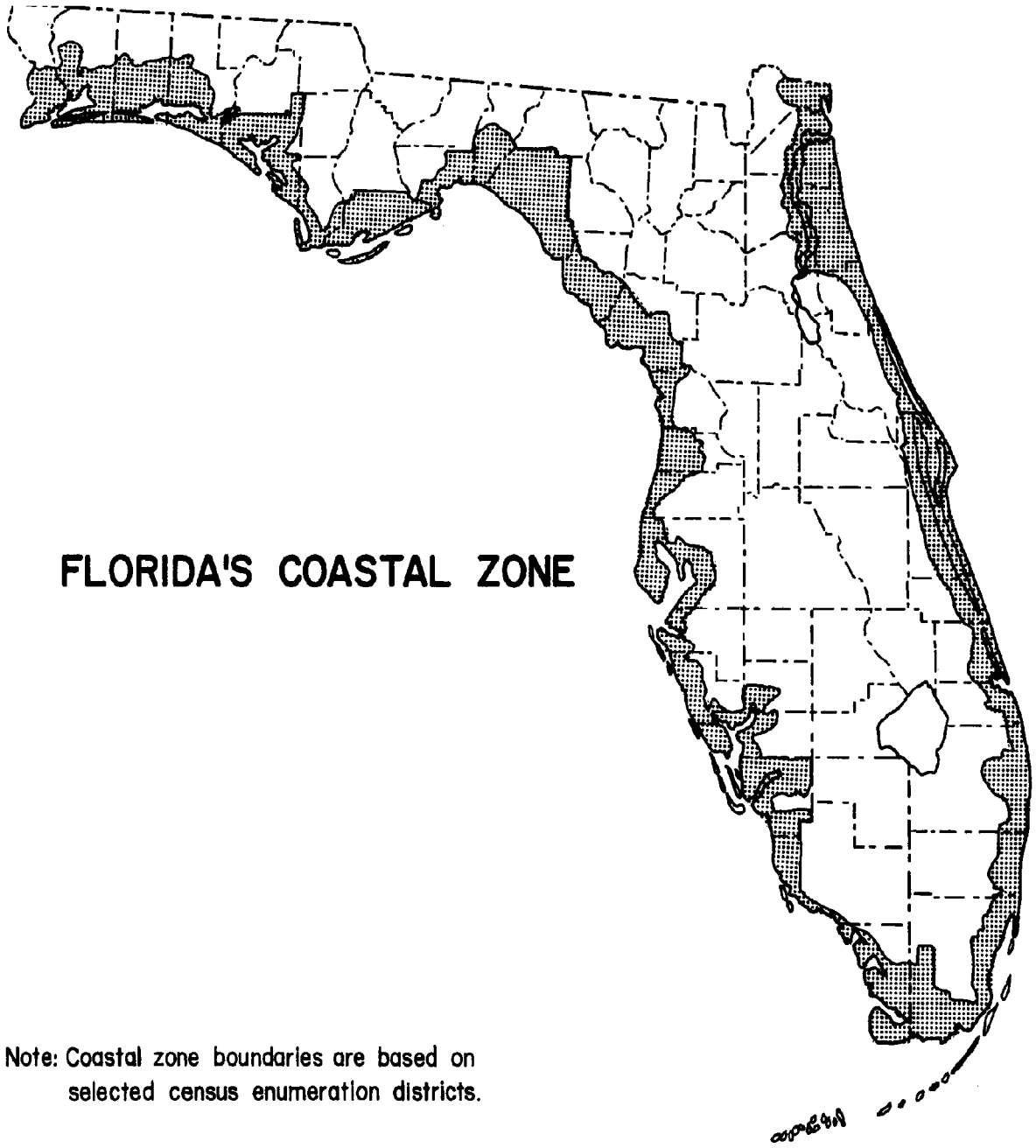
The Council has selected Escambia and Santa Rosa counties of western Florida as a pilot study area in which to work out the format and methodology to be followed in developing a coastal zone management plan for the entire Florida coastal zone. For convenience, we collectively refer to this area as Escarosa.

This particular area was selected because it contains prime examples of hydrography, coastal physiography and coastal economics which are common to the entire length of the Florida coastline. It has barrier beaches, lagoons, marshlands, bays and estuaries, as well as a significant port and metropolitan area (Pensacola), a progressive university (University of West Florida), and increasing pressure for conflicting multiple-uses of the shoreline brought about by an expanding population and expanding chemical industrial uses. Moreover, Escarosa has a regional planning program (Escambia-Santa Rosa Regional Planning Council) and has been the subject of two Federal-State Water Quality Conferences.

An in-depth study and coastal management plan on Escarosa will be completed by the Coastal Coordinating Council by June 1972, which will hopefully be the model for a coastal management system for the entire state. The outline of the plan is based on five segments as follows:

I. Biophysical Environment) II. Human Adaptations) III. Environmental Quality) IV. Planning V. Management	Inventory of Existing Conditions

Existing information has been utilized wherever available but new research on previously unknown factors is now under way. Results of this new research, which



FLORIDA'S COASTAL ZONE

Note: Coastal zone boundaries are based on selected census enumeration districts.

FLORIDA COASTAL COORDINATING COUNCIL

will include oceanography of the territorial sea, aesthetic enhancement of the region, a coastal law inventory, environmental zoning, marine ecology of the estuaries, etc. will be included in the completed Escarosa master plan.

Recommended Coastal Zoning Categories

In recent years, man's understanding and appreciation of environmental sciences has increased to the point of realization that certain shoreline areas must be preserved in their natural state if marine resources and the quality of life in Florida are to be maintained, and if possible, enhanced. Working on this premise, and mindful of the legislative charge to develop a coastal management plan allowing for both preservation and development, the Coastal Coordinating Council has developed three basic zoning categories for land and water use.

- Preservation—no development
- Conservation—limited development
- Development—intensive development

These zoning categories are illustrated for the Escarosa area in Figures A through D of Appendix I. It is felt that this scheme is general enough to allow local government to perform adequately, yet specific enough to encourage wise use of our coastal resources.

In arriving at these conclusions, the Council staff conducted an exhaustive study of many parameters, including soils, vegetation, topography, beach erosion, ground water conditions, shoreline land use, recreational resources, marine ecology, etc. Aerial photography, soil surveys, topographic maps, spot field checks and other source material were utilized for the Escarosa area. Criteria and recommended policy for each zoning category follows and is supplemented by additional information in Tables A, B and C of Appendix I.

Preservation:

Preservation areas are recommended to be protected from any further development except in extreme cases of overriding public interest authorized by the Cabinet or the Legislature. The preservation concept includes considerations of ecologically sensitive flora and fauna as well as fragile topographic features such as beaches, marshes and dunes. Included are historical and archaeological sites and any unique, environmental features peculiar to the region such as selected springs, caves, waterfalls, and reefs. The water areas are classified for shellfish propagation (Class II), which is the most stringent marine water classification.

This resulting "preservation" environment would offer enhanced aesthetic values, recreational opportunities, and substantial hurricane protection to coastal residents and visitors. It is further recommended that this be a state-level zoning responsibility because of the often intensive development pressures brought to bear at the local level. *Approximately 6.5 per cent of the land area of the Escarosa coastal zone is classified as "preservation".*

Subcategory	*Priority Use*
Class I Waters	Source of potable water
Class II Waters	Shellfish propagation
Marine Grass Beds	Commercial & sport fish propagation
Selected Coastal Marshes	Commercial & sport fish propagation
Selected Coastal Mangroves	Commercial & sport fish propagation
Gulf & Atlantic Beaches and Dunes	Shore erosion protection, recreation
Estuarine Beaches	Shore erosion protection, recreation
Wilderness Areas	Ecological protection
Selected Fresh Water Swamps	Ecological protection and flood water storage
Historical and Archaeological Sites	Cultural enhancement
Other Unique Environmental Features	Aesthetic enhancement, recreation

See Figure A, "Preservation" Map of Escarosa and Table A, Zoning Category: "Preservation".

Conservation:

Conservation areas are recommended to be used for extensive land uses as opposed to intensive uses. The conservation concept includes lands inherently unsuited to high density, intensive development because of physical limitations of the soil and/or high flooding probability. They are not considered critical to ecological balance but do provide buffer zones for preservation areas and represent a retention of use options for future generations. The lands with soil limitations, herein called "marginal lands", could in the future be used for development but based on present technology and engineering, would require a considerable expenditure of capital.

Conservation lands can be utilized for open space recreation, greenbelts, forestry, game management, and wildlife refuges. These lands can be utilized for certain types of agriculture and grazing if such uses do not require draining or pumping. Development should be limited to low density uses, bearing in mind that ground floor elevations of new construction situated in flood prone areas must be above the 100-year flood level to qualify for federal flood insurance. Scenic easements are recommended for the immediate foreground of locations with outstanding views of the landscape. Construction of marinas and other shoreline recreational facilities would be permitted provided environmental safeguards are complied with. Special guidelines and criteria will apply in the Shoreline Use Zone extending from the M.H.W. line to the inland limits of the Hurricane Flood Zone.

The water areas are Class III as delineated by the Department of Pollution Control and designated for fish and wildlife propagation with pollution levels compatible with body-contact water sports. The water areas also include special uses such as aquatic

preserves and aquaculture leases which are not included in preservation areas because they permit limited shoreline development and can utilize Class III waters.

The conservation zoning category is recommended to be primarily a state-level responsibility, since the majority of the subcategories are established by state or federal action. County and local zoning participation would be encouraged for limited development controls, parks (other than state owned), scenic vistas, and marginal lands. Approximately 30.5 per cent of the land area of the Escarosa coastal zone is classified as "conservation".

Subcategory	*Priority Use*
Class III Waters	Fish & wildlife propagation, water-contact sports
Aquatic Preserves	Fish & wildlife propagation
Aquaculture Leases	Fish farming
Spoil Islands	Aesthetics, recreation
Hurricane Flood Zone (Special Shoreline Use Zone)	Priority shoreline use given to activities requiring waterfront locations; areas behind the shore are recommended for non-intensive use
River Flood Plains	Non-development (open space, greenbelts, timber, agriculture)
Scenic Vistas	Aesthetics
Forestry & Game Management Areas	Hunting & timber production
Wildlife Refuges	Wildlife enhancement
Parks	Recreation
Marginal Lands	Open space, greenbelts, grazing, timber.

See Figure B, "Conservation" Map of Escarosa and Table B, Zoning Category: "Conservation".

Development:

Development zoning includes (1) lands already developed; (2) undeveloped lands now vacant or used for other purposes, including forestry and agriculture, which are intrinsically suitable for intensive development; and (3) undeveloped lands with some physical limitations—drainage problems, poor permeability, salt water intrusion—which can be corrected by drainage techniques, central sewage systems or central water supplies. In general, these lands are not considered to be environmentally fragile. However, there are areas presently developed that would have been recommended for "conservation" and "preservation" zoning had they not already been developed. Such areas are classified as "conflict" areas on Figures C and D, Appendix I. Special guidelines and criteria will apply in the Shoreline Use Zone extending from M.H.W. to the inland limits of the 100-year Hurricane Flood Zone.

Zoning for specific uses inside "development" areas is recommended to be primarily county or municipal responsibilities. However, the Coastal Coordinating Council will develop shoreline-use criteria for "development" areas as guidelines for local zoning authorities. The state will also develop guidelines for construction of "key facilities"; i.e., those facilities of such size and importance that they exert regional influence beyond the localities involved. Examples of such "key facilities" would be major airports, large housing subdivisions, interstate highway interchanges, etc. *Approximately 63 per cent of the land area of the Escarosa coastal zone is classified as "development".*

Subcategory	*Priority Use*
Class IV Waters	Agricultural and industrial water supply
Class V Waters	Navigation, utility and industrial use
Undeveloped Lands Suitable for Intensive Development	Development (if needed)
Undeveloped Lands Suitable for Intensive Development with Corrections	Development (if needed and if economically feasible to correct)
Presently Developed Lands:	
Conflict Areas	Those uses allowed in "conservation" areas
Non-Conflict Areas	Development
Hurricane Flood Zone (Special Shoreline Use Zone)	Priority shoreline use given to activities requiring waterfront locations; areas behind the shore are recommended for non-intensive use.

See Figure C, "Development" Map of Escarosa, Table C, Zoning Category: "Development", and Figure D, Composite Zoning Map of Escarosa.

Shoreline Management

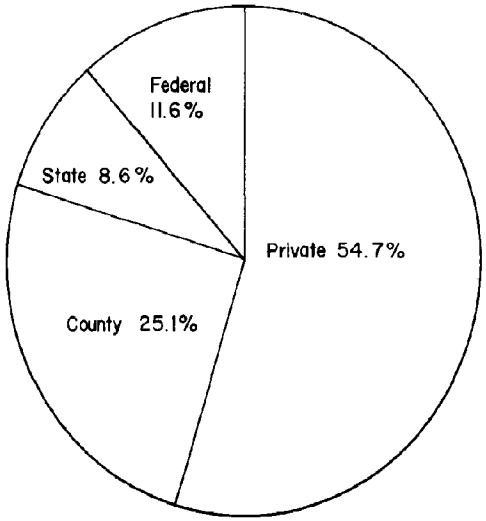
It can be anticipated that the state will take a direct interest in "development" areas immediately on the shoreline and including all of the 100-year hurricane flood zone. It is obvious that something more than just local controls are needed but what direction they might take requires considerably more research, analysis and discussion before a logical and reasonable plan can be recommended. Figures 3 and 4 show the current shoreline land use and ownership in Escarosa.

With limited shoreline and increasing competitive demands, agencies having advisory or controlling powers over shoreline development must consider priorities of land use. Those activities that can only function through use of waterfront property or access to it must have first priority for inclusion in shoreline areas designated for development. Of second priority are those activities that can function inland but a shoreline location significantly enhances the land use on an economic or aesthetic basis. Any waterfront use, of course, must still make every effort to minimize environmental impact. Land uses not requiring a coastal location, or that are not economically or aesthetically enhanced to a significant degree should not be allowed waterfront usage since there are sufficient areas inland. Multiple-uses of a locale are to be encouraged.

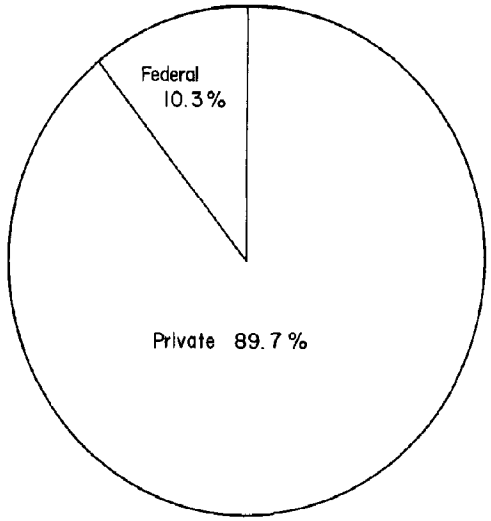
A considered *priority* of shoreline uses can be summarized as follows:

GENERAL SHORELINE OWNERSHIP

ESCAROSA



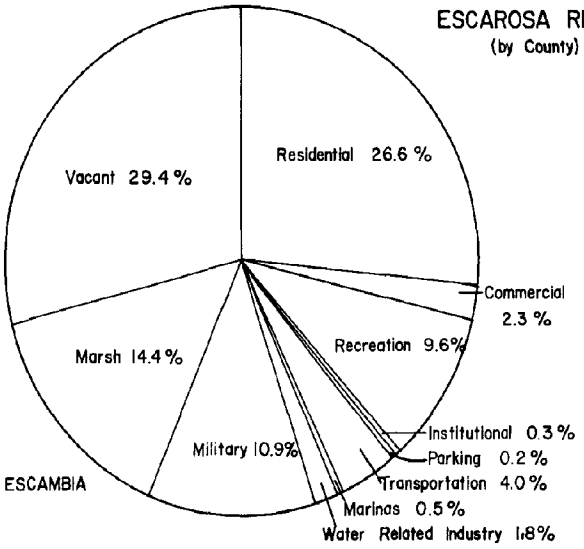
ESCAMBIA COUNTY

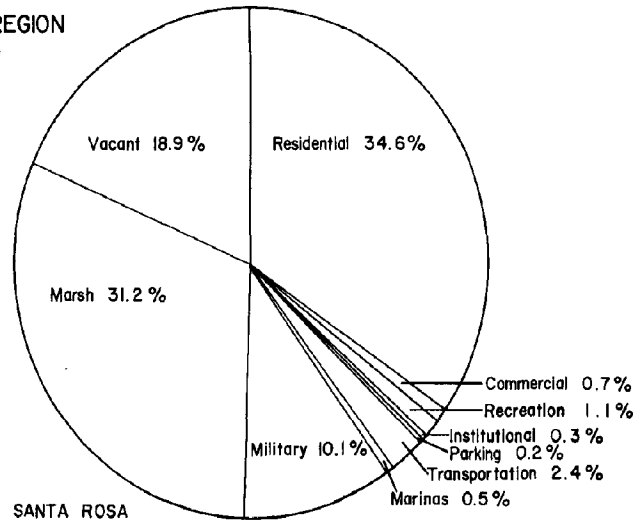


SANTA ROSA COUNTY

SHORELINE LAND USE

ESCAROSA REGION
(by County)





1. Preservation
2. Conservation (including Recreation)
3. Development
   a. Military (where necessary to assure the security of the area and country)
   b. Transportation (when waterfront location is mandatory)
   c. Utilities (when waterfront location is mandatory. Transportation and Utilities are fundamental to the development of any area.)
   d. Water Related Industry
   e. Water Related Commercial
   f. Residential
   g. Commercial enhanced by waterfront
   h. Industry enhanced by waterfront

See Figure 3, Shoreline Land Use: Escarosa Region and Figure 4, General Shoreline Ownership: Escarosa.

Conclusion

Although the consequences of over-reacting to environmental problems promise to be serious, those produced by the failure to act will be even more so. The optimum approach to coastal zone management, however, would call, not for a complete moratorium on development or a complete removal of controls where all actions are decided in the market place, but rather for rational controls based on informed judgment. The system would not be pro-development nor pro-conservation. Trade-offs would occur, with some development being restricted and some ecologically valuable areas sacrificed. The choices, however, would be made consciously, after full consideration of the regional, as well as local consequences, rather than through power plays by the dominant self-interest groups involved. The controlling factor against which all choices would be measured would be the public interest as viewed from a rather broad, long-range perspective.

One of the most serious defects of past planning has been the inability to follow through with implementation. The State of Florida will face the same problem in its coastal zone management program unless it receives support from the citizens, Legislature, Cabinet and various state and local agencies involved. This is a formidable challenge, considering the diversity of interests represented. However, widespread interest at all levels of government indicates that effective coastal zone management in Florida can move from the status of pipe dream to reality if the state shows the necessary leadership. In light of this, recommendations for implementing the plans will be developed by the Council, with participation by all levels of government and the private sector, at which time the major emphasis of the Coastal Coordinating Council would shift from a planning effort to a management/implementation effort.

In the interim, the mere identification of Florida coastal zone areas that should be preserved can be effective. Traditionally, areas of Florida's coastal zone are being preserved as the exception rather than the rule. It is not infrequent that extensive plans are made, monies expended, and in some cases, construction begun before opposition to a development is apparent. The results are conflict and confrontation with further expenditure of energy and dollars on both sides. Such an approach is unfortunate, impractical and needless.

Without exception, each state agency and many representatives of private industry have expressed the same thought. "Tell me what areas are not to be disturbed early enough so that we may plan to avoid them. We wish to avoid controversial areas, where possible, and not expend monies and energy needlessly."

It is considered that the most immediate and meaningful contribution the Florida Coastal Coordinating Council can make is to coordinate the documentation of "preservation" and "conservation" areas for the entire coastal zone of the state and support actions that will make development of these areas the exception rather than the rule. This results in development agencies, industry, and individuals being aware of the state's position and knowing the path of least resistance.

To summarize, the problem of how to manage the diverse activities and resources of the coastal zone is widely recognized at the federal level and throughout the coastal states. Florida has more at stake in coastal management than any other state because it has the longest coastline with the most desirable and usable waterfront property in the nation. Only Alaska has more coastline, but it has little population pressure and her coasts are largely owned by the federal government. Consequently, Florida should be the leader in coastal management. We have a good base on which to build. The Governor, the Cabinet and the Legislature can provide the leadership and the tools. The results will make our state a better place to live for ourselves and for future generations.

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APPENDIX I

ZONING MAPS

and

POLICY/CRITERIA TABLES

TABLE A: PRESERVATION CRITERIA AND POLICY

ZONING CATEGORY: PRESERVATION

No development permitted except in cases of overriding public interest as determined by the Governor and Cabinet and/or the Legislature. The subcategories included are those physical features which are essential to preserve the ecological balance, especially of marine life, and protect the physical integrity of the coastal zone, thereby enhancing the amenities, aesthetics and quality of life for residents and tourists. Preservation zoning is deemed to be of statewide significance, and therefore, a state-level responsibility.

Subcategory	Class I Waters (fresh water)	Class II Waters (coastal waters)	Marine Grass Beds	Selected Coastal Marshes	Selected Coastal Mangroves	Gulf and Atlantic Beaches and Dunes	Estuarine Beaches	Wilderness Areas	Selected Fresh Water Swamps	Historical and Archaeological Sites	Other Unique Environmental Features
Priority Use	Public water supplies	Shellfish harvesting and propagation of marine life.	Propagation of sport and commercial fisheries; waterfowl and wading bird food production.	Propagation of marine life Hurricane protection Aesthetics Waterfowl and wading bird habitat	Propagation of marine life Hurricane protection Prevention of shore erosion Aesthetics Propagation of bird life	Prevent beach erosion Protection of properties from erosion Recreation Aesthetics Hurricane protection (dunes)	Prevent beach erosion Recreation Aesthetics	Protection of the biophysical environment Aesthetics Scientific research Recreation Fish and Wildlife habitat	Ecological balance	Culture Aesthetics Recreation	Environmental protection Aesthetics Recreation Wild rivers
Description	Surface fresh water used as a potable source of public water supplies or withdrawn for treatment as such.	Coastal waters which have the capability of supporting shellfish harvesting. Class II waters are the most stringent marine classification.	Submerged grassy areas essential to the propagation and nourishment of fisheries. Generally limited in depth to 6-10' but could be deeper in clearer water.	Low coastal areas covered by grassy, salt-tolerant vegetation subject to tidal ebb & flow during any part of the tidal cycle. Includes the "high marsh" beyond the mean high water line. These areas constitute the basis of Florida's valuable marine fisheries. Such coastal marshes that have regional significance to marine ecology would be selected for preservation. Lesser marshes would be classified as "marginal lands" under conservation areas.	Shore-fringing strands of red, black and/or white mangrove having regional significance regarding maintenance of biological productivity, stabilization of shorelines, or aesthetics.	Ocean-fronting beaches along the Gulf and Atlantic shorelines. The beach zone extends inland beyond the MHW line to the coastal construction setback line and may extend inland one or more dunes.	Selected estuarine beaches suitable for shore recreation with appropriate public access.	Areas selected by the Interagency Advisory Committee on the State Wilderness System to be preserved in their natural state. Wilderness areas are characterized as being of one or more of the following principal types: 1) Biological 2) Aesthetic 3) Scientific Federal Wilderness Areas are included in this subcategory.	Low tree-covered, spongy areas with high water tables, unfit for agriculture or intensive land use without major alteration.	Areas of outstanding historical or archaeological significance designated by either the federal government or the Florida Division of Archives and History of the Secretary of State's Office.	Unusual and unique natural features characteristic of a coastal region and occupying a comparatively small geographic area. Examples would be selected reefs, waterfalls, caves or caverns, sinkholes, springs, bluffs, rivers, etc.
State's Objectives	To preserve and protect sources of potable waters in the coastal zone.	To preserve shellfish resources by protecting designated marine areas from pollution and to allow natural development and growth of animal and vegetative organisms, such areas acting as breeding and feeding grounds for marine organisms.	To protect from pollution and preserve breeding and feeding areas essential to maintain and enhance the sport and commercial fisheries and bird life of the state.	To protect from pollution and preserve coastal marshes necessary for maintenance of the basic elements of the food chain.	To protect from pollution and preserve stands of coastal mangrove of regional significance from destruction by coastal development.	To preserve the state's beaches from unnecessary erosion caused by construction in the beach zone and to preserve coastal dunes as natural hurricane barriers and as sources of natural beach replenishment material, thereby enhancing recreational and aesthetic values. To encourage participation in beach restoration programs.	To protect estuarine beaches from erosion caused by indiscriminate construction and to utilize some for public recreation.	To protect the natural environment in selected state-owned areas, to restrict further development except that necessary for administration and management, and to permit recreational uses that are not ecologically disruptive. To protect such areas from pollution.	To protect from pollution and preserve selected fresh water swamps as natural ecological units, as natural retention mechanisms and surface water storage. To protect such areas from outside development or pollution and enhance the natural growth cycles of flora and fauna.	To preserve, protect and allow public access and display of sites important to Florida history and archaeology.	To protect from pollution and preserve and protect unique environmental features not otherwise protected.
*Responsible State Agencies**	1. Dept. of Pollution Control 2. Division of Health, Dept. of Health and Rehabilitative Services	1. Dept. of Pollution Control 2. Division of Health, Dept. of Health and Rehabilitative Services 3. Div. of Marine Resources, Dept. of Natural Resources 4. Trustees of Internal Improvement Trust Fund	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Dept. of Pollution Control 4. Game & Fresh Water Fish Commission	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Dept. of Pollution Control 4. Game & Fresh Water Fish Commission	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Dept. of Agriculture and Consumer Services, Div. of Forestry 4. Dept. of Pollution Control 5. Game & Fresh Water Fish Commission	1. Dept. of Natural Resources, Bureau of Beaches and Shores 2. Trustees of the Internal Improvement Trust Fund 3. Dept. of Agriculture and Consumer Services, Division of Forestry 4. Dept. of Community Affairs, Flood Insurance Program	1. Dept. of Natural Resources, Bureau of Beaches and Shores 2. Trustees of the Internal Improvement Trust Fund 3. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Trustees of the Internal Improvement Trust Fund 2. Interagency Advisory Committee: TIITF DNR--Recreation and Parks; CCC G&FWFC Agriculture DPC 3. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Department of Natural Resources 2. Game and Fresh Water Fish Commission 3. Dept. of Agriculture and Consumer Services, Division of Forestry	1. Division of Archives and History, Secretary of State's Office 2. Department of Community Affairs	1. Trustees of the Internal Improvement Trust Fund 2. Department of Natural Resources 3. Department of Pollution Control 4. Game and Fresh Water Fish Commission
How Identified	By Dept. of Pollution Control Planning Div. according to state water quality criteria.	By Dept. of Pollution Control according to federal water quality criteria. Shellfish areas are further certified by the Div. of Health, Dept. of Health & Rehabilitative Services before the product can be marketed.	By aerial photography and by field surveys conducted by the Dept. of Natural Resources, the CCC and/or the National Marine Fisheries Service of NOAA.	Selected by the CCC in conjunction with other DNR agencies, by means of aerial photography, soil surveys, topographic maps and field surveys.	Selected by the CCC in conjunction with other DNR agencies, by means of aerial photography and field surveys.	By Dept. of Natural Resources, using aerial photography and field engineering and topographic surveys.	From aerial photography, topographic maps and field surveys by DNR.	By the Interagency Advisory Committee on the State Wilderness System using aerial photography, topographic maps, and field surveys.	Identified from aerial photography, topographic maps and Soil Conservation Service soil maps by the Coastal Coordinating Council in cooperation with other state agencies.	By Division of Archives and History, Office of Secretary of State, through research of literature, historical surveys conducted by the state, and information from local historical groups.	By aerial photography, topographic maps and field investigations by the Coastal Coordinating Council in cooperation with other agencies.

State Policy/Criteria	Definitive criteria for Class I Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Pollution of Waters, and in Chapter 373, Florida Statutes.	Definitive criteria for Class II Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Pollution of Waters, and in Chapter 373, Florida Statutes.	Submerged lands are under the control of the TIITF, except those previously sold to private owners or transferred to municipalities. Recent TIITF and Cabinet policy has been not to disturb marine grass beds except in cases of overriding public interest. Reference: Chapter 253, Florida Statutes.	Recent state agency and Cabinet decisions have generally disapproved permit applications which would destroy coastal marshes. However, the "high marsh" landward of the MHW line is not protected and may be in private ownership. Reference: Chapter 253, Florida Statutes.	Recent state agency and Cabinet decisions have generally disapproved permit applications which would destroy significant areas of mangrove. Reference: Chapter 253, Florida Statutes.	Establishment of a coastal construction setback line based on beach processes. Reference: Chapter 161-053, Florida Statutes. Any new coastal construction or change of existing structures for shore protection purposes must obtain a DNR permit. State policy favors public access to state-owned beaches below the mean high water line which are managed by the TIITF as part of state lands. Reference: Chapter 161-041, Florida Statutes.	Any new coastal construction or change of existing structures for shore protection purposes must obtain a DNR permit. State policy favors public access to state-owned beaches below the mean high water line which are managed by the TIITF as part of state lands. Reference: Chapter 161-041, Florida Statutes.	State criteria for wilderness areas are based on rules adopted by the TIITF after considering those applied to federal wilderness areas and wilderness systems of other states. There will be no commercial development and no additional development for the comfort and convenience of users. The primary use is to protect the natural environment. Public use is limited to hiking, bathing, boating, sport fishing, hunting, picnicking, sightseeing, camping, nature study and research to the extent compatible with the purpose for which the wilderness area was established. Reference: Chapter 70-355, Florida Statutes.	Except for those swamps currently protected as a part of national, state or county parks, or wildlife refuges or wilderness areas, such swamps are not state protected. The Coastal Coordinating Council recommends those of regional significance be preserved.	The state's policy is to protect and preserve historic sites and properties including buildings and objects of scientific and historical value relating to the history, government and culture of the state. Reference: Chapter 267, Florida Statutes.	The state has, in the past, incorporated many unique environmental areas into its state park system. However, there remain areas having unusual environmental features that the CCC recommends be protected by the state to enhance the aesthetic and recreational values of the coastal zone. These would, in general, be at comparatively small geographic area. Reference: CCC/Coastal Zone Resources Corporation Contract.
Existing Support and Controls	Dept of Pollution Control and Div. of Health monitors Class I waters and DPC has enforcement powers to stop pollution if the purity standards are not being maintained.	Dept. of Pollution Control has enforcement powers to maintain quality standards of Class II Waters. Div. of Health approves harvested shellfish for human consumption. Div. of Marine Resources carries out shellfish research, enforces fishing regulations and leases shellfish beds.	TIITF process dredge and fill permit requests and make recommendations for action to the Cabinet. DNR (Survey & Management) must make biological report on each dredge and fill request. If significant marine grass beds are involved, such reports are adverse and may cause denial of request.	Coastal marshes seaward of the MHW line are under the control of the TIITF, unless previously sold to private owners or transferred to municipalities. All such lands are subject to state regulations with regard to dredging and filling and development, which requires a permit based on: 1) Local authority approval 2) Biological (ecological) report 3) Hydrographic survey (if required by DNR) 4) TIITF approval 5) DPC approval	The biological reports required by dredge & fill or coastal construction permitting procedures would be adverse if significant damage to mangroves would result. However, the state's present jurisdiction is only seaward of the MHW line.	Dept. of Natural Resources, Bureau of Beaches & Shores establishes the setback line after surveys and public hearings. The setback line is then recorded in the public records of the Clerk of the Circuit Court of the county and municipality affected. Objecting upland owners are granted a review of the setback line upon written request to Dept. of Natural Resources. DNR decision is subject to judicial review. Violations are classified as a public nuisance and will be removed at expense of the owner or by DNR and cost becomes a lien on the property. DNR may exempt parts of the coastline not endangered by erosion. If setback line has not yet been established, the 50-foot setback from MHW applies. Permits are required for construction of any erosion control structures.	DNR shore protection construction or modification permits are required only for construction on state-owned lands; there are no existing supports and controls on privately-owned estuarine beaches and shores.	Identification and control of wilderness areas are under the supervision of the TIITF, who are advised by an Interagency Advisory Committee, and who after public hearings, may set aside state lands by resolution. Rules and regulations for wilderness areas are now under study by the TIITF.	There is no existing support or control for regionally important swamps unless they fall in other protected categories such as wildlife refuges, wilderness areas or parks.	The Bureau of Historic Sites and Properties has the responsibility to locate, acquire, protect and promote the location, acquisition and preservation of historic sites and properties. The Bureau of Historic Museums has the responsibility to promote and encourage throughout the state, knowledge and appreciation of Florida history.	There is no existing support or control for "other unique environmental features" which are not included in wilderness areas or parks or aquatic preserves.
Needed Legislation	None required at this time.	Additional monitoring personnel are required by Dept. of Pollution Control and Division of Health. Monitoring of waters should be monthly, with provision made for publication of results. Authorization is needed for additional Marine Patrol Officers to better protect coastal waters.	None required at this time.	Additional legislation is required to protect the "high marsh" from development and resolve problems concerning private ownership rights versus the state's preservation zoning powers.	Additional legislation is required to protect regionally significant stands of mangrove landward of the MHW line.	Legislation is needed to expand the setback line to include estuarine beaches, and to initiate a program of stabilization of migratory dunes.	The costal construction setback line does not include estuarine beaches. The CCC is recommending that selected estuarine beaches be included in the provisions of the coastal construction setback line and that the public right of access to state-owned beaches suitable for recreation be guaranteed. Suitable legislation is required to accomplish this.	According to the State Wilderness System Act, all governmental units below the state level owning suitable lands are encouraged to submit recommendations for wilderness areas. Response to this provision of the law has been negligible and should be stimulated.	Legislation is needed to authorize the preservation zoning concept for swamps selected by responsible state agencies and to resolve conflicts involving private property rights.	Assurance of adequate acquisition funds and condemnation procedures to secure significant historic or archaeological sites.	Legislation is needed to authorize the preservation zoning concept for "other unique environmental features" not included in other preservation legislation, such areas to be selected by responsible state agencies. Arrangements to zone such features should include considerations for resolving conflicts with private property rights.

* The agencies designated may or may not have statutory powers with regard to responsibility to the subcategories at this time.

FIGURE A. PRESERVATION MAP

ZONING CATEGORY: CONSERVATION

Areas physically unsuited for intensive development (i.e., high-density housing subdivisions, shopping centers, industrial complexes, etc.) yet usable for limited development (i.e., vacation cottages, low intensity recreation, and other uses not requiring major modification of physical conditions) incorporating environmental safeguards. The subcategories include areas that are not primarily critical to ecological balance but do provide buffer zones for "preservation" areas and represent a retention of use options for future generations. Conservation zoning responsibilities can be shared between the state and the appropriate regional or local authorities, although the majority of the subcategories are already set at the state level by existing laws and Cabinet policy.

Subcategory	Class III Waters	Aquatic Preserves	Aquaculture Leases	Spoil Islands	Hurricane Flood Zone (Special Shoreline-Use Zone)	River Flood Plains	Scenic Vistas	Forestry & Game Management Areas	Wildlife Refuges	Parks and Recreation Areas	Marginal Lands
Priority Use	Fish & wildlife propagation Water contact sports	Recreation Research & education Aesthetics Maintenance of marine productivity Propagation of wildlife	Cultivation of animal and/or plant life.	Aesthetics Bird/wildlife habitat Recreation	Uses which require waterfront locations Public Recreation Non-intensive, low investment uses that will not unnecessarily jeopardize human life or economic welfare.	Timber management Greenbelts Recreation Aquifer recharge Wildlife habitat	Aesthetics	Timber production Hunting	Wildlife habitat Recreation, not including hunting	Recreation Aesthetics	Recreation Greenbelts/Open Space Timber Production Extensive agriculture/grazing, if these activities do not require draining or pumping. Wildlife habitat
Description	All coastal waters not otherwise classified. Includes bays, rivers, estuaries and open waters of the territorial sea.	Coastal and marine areas of exceptional biological, aesthetic, educational and/or scientific value.	Leases granted for exclusive use of submerged bottom areas and the overlying water column for the purpose of cultivating animal and/or plant life. Traditional oyster leases are not included in this subcategory.	Artificial islands created with material dredged from state-owned lands to create or deepen channels in passes, bays, lagoons, bayous, etc. Many such islands exist along the Intracoastal Waterway.	Lands between the shoreline and the 100 year flood line. These areas are subject to flooding during hurricane conditions.	Lands lying along drainage corridors (rivers & streams) that are subject to flooding on a regular basis. May include swampy areas; generally contain mixed alluvial, poorly drained soils.	Peripheral parcels of land and/or water having exceptional scenic or aesthetic values including rivers and highways. Such areas may include bluffs, hills, or other vantage points that afford a unique scenic perspective.	Areas having high-quality timber or good timber producing potential and/or support game populations large enough to allow inclusion into the state's game management program.	Areas specifically set aside for the protection of wildlife. Such areas may be subject to multiple use management as in the case of State Parks, all of which are game refuges.	Areas and facilities devoted to recreational activities of various types. May include historical or archaeological sites, game refuges or unique environmental features.	Those lands unsuitable for intensive development due to physical characteristics.
State's Objectives	To prevent degradation of present water quality.	To provide adequate overall protection to coastal areas having exceptional aesthetic, biological, scientific or educational values and the establishment of a statewide system of such preserves for Florida.	To allow certain state-owned submerged bottom lands and the overlying water column to be leased for aquaculture industries or research and insure that such areas are utilized in a productive manner in the public interest.	To protect in the public interest, state-owned spoil islands for use as plant and animal habitats and limited recreational activity. To establish, where possible, natural vegetation on such manmade islands.	To discourage, in the public interest, through appropriate land use controls, any development in the Hurricane Flood Zone which would unnecessarily jeopardize human life or economic welfare. To prevent development that would have undesirable ecological effects on coastal waters and wetlands.	To prevent unnecessary flood losses caused by unwise development of flood prone areas and to preserve the ecological values of flood plains.	To conserve in the public interest certain selected areas judged to have exceptional scenic or aesthetic values.	To provide the state with a stockpile of timber resources and/or to provide areas that will support public hunting under the auspices of the Game and Fresh Water Fish Commission.	To protect wildlife in the coastal zone; to reserve lands as nature areas.	To create, maintain, and where needed, expand outdoor recreation and park facilities for the benefit of state residents and visitors; to conserve state lands for future recreation needs.	To hold in reserve such lands for use as wildlife habitat, open space recreation areas or greenbelts until it becomes feasible to allow development of these areas.
*Responsible State Agencies **	1. Dept. of Pollution Control 2. Div. of Health 3. Dept. of Natural Resources, Div. of Marine Resources 4. Game and Fresh Water Fish Commission	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Dept. of Pollution Control	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Game and Fresh Water Fish Commission	1. Trustees of the Internal Improvement Trust Fund 2. Dept. of Natural Resources 3. Game and Fresh Water Fish Commission 4. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Dept. of Community Affairs 2. Dept. of Natural Resources 3. Coastal Coordinating Council 4. Trustees of the Internal Improvement Trust Fund 5. State Bureau of Planning 6. Dept. of Pollution Control 7. Dept. of Health and Rehabilitative Services, Div. of Health 8. Dept. of Commerce	1. Dept. of Community Affairs 2. Dept. of Natural Resources 3. Game and Fresh Water Fish Commission 4. Trustees of the Internal Improvement Trust Fund 5. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Dept. of Natural Resources 2. Dept. of Transportation	1. Dept. of Agriculture and Consumer Services, Div. of Forestry 2. Game and Fresh Water Fish Commission	1. Game and Fresh Water Fish Commission 2. Dept. of Natural Resources 3. Trustees of the Internal Improvement Trust Fund 4. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Dept. of Natural Resources, Division of Recreation & Parks 2. Dept. of Transportation 3. Dept. of Agriculture and Consumer Services, Div. of Forestry	1. Dept. of Natural Resources 2. Trustees of the Internal Improvement Trust Fund 3. Dept. of Agriculture and Consumer Services, Div. of Forestry
How Identified	By the Dept. of Pollution Control according to state water quality criteria.	By the Interagency Advisory Committee on Submerged Land Management, after careful study and deliberation of the area's biological, aesthetic or scientific value.	By the applicant for a lease from the TIITF.	By the CCC and TIITF staff using aerial photography, U.S.C.G.S. navigational charts, and review of records indicating approved spoil deposition areas.	Determined through surveys currently being conducted for the U.S. Dept. of Housing & Urban Development in conjunction with its flood insurance program. Surveys are being conducted by several federal agencies.	By the CCC, Bureau of Water Resources, and U.S. Corps of Engineers, utilizing aerial photography, soil surveys, U.S.G.S. topographic maps, and past history of flooding.	By CCC and Dept. of Natural Resources in cooperation with local interests.	Forestry management areas are selected and protected by the Div. of Forestry & by private owners. Wildlife management areas are selected by the Game and Freshwater Fish Commission. These areas may be state-owned or managed through agreements with private land owners.	From maps provided by the Game and Fresh Water Fish Commission or by agencies and groups having control over such areas.	By DNR in cooperation with the agencies or governmental bodies that have established the parks.	By the CCC through use of soil surveys, topographic surveys, aerial photography and field investigations.

State Policy/Criteria	Definitive criteria for Class III Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Florida Administrative Code, and in Chapter 373, Florida Statutes.	No alteration of physical conditions within aquatic preserves except minimum dredging & spoiling for authorized public navigation projects. Reference: Report Number Two of the Interagency Advisory Committee on Submerged Land Management. TIITF resolution of November 24, 1969. Chapter 69-432, Laws of Florida.	*Public notice and hearings required* before lease may be granted. Such lease will not be granted if the appropriate county commission adopts and files a resolution of objection to the lease. References: Chapter 253, Florida Statutes. Agriculture Lease Guidelines- TIITF.	Spoil islands, unless conveyed from state ownership by deed, are under the jurisdiction of the TIITF. Any modification of spoil islands requires a Trustee permit. The Cabinet is on record as favoring nondevelopment of spoil islands. Reference: Chapter 253, Florida Statutes, Chapter 18, Florida Administrative Code. Cabinet Resolution of August 11, 1970.	National Flood Insurance Program criteria apply to all area below the 100 year flood line. Reference: National Flood Insurance Act of 1968 (42 U.S.C. 4001, 82 Stat. 572). Also: Parts 1909 and 1910 of Subchapter B of Chapter VII of Title 24 CFR.	None except under the Federal Flood Insurance Program. Reference: National Flood Insurance Act of 1968 (42 U.S.C. 4001, 82 Stat. 572). Also: Parts 1909 and 1910 of Subchapter B of Chapter VII of Title 24 CFR,	None except when these areas are included in state-controlled special use areas such as State Parks, Wilderness Areas, Aquatic Preserves or State Forests.	Div. of Forestry may acquire lands, designate reforestation areas, and manage all State Forests and reforestation areas in the public interest. Reference: Chapter 589 and 590, Florida Statutes. Criteria for Wildlife Management areas are given in the Wildlife Code of the State of Florida, Game and Fresh Water Fish Commission, July, 1971. Reference: Chapter 372, Florida Statutes.	No game may be taken or possessed on any area closed by Game and Fresh Water Fish Commission order as a wildlife refuge. No guns, dogs, traps, or other game taking devices allowed in such areas. Reference: Chapter 16E-7; Chapter 16E-8, Wildlife Code of the State of Florida. Chapter 372, Florida Statutes.	State Park authority is stated in *Chapters* 592, 575, and 418, Florida Statutes.	None at this time except as related to other endeavors.
Existing Support and Controls	Class III Waters are monitored on a monthly basis by the Dept. of Pollution Control and Div. of Health with assistance from the Marine Patrol.	Cabinet approves or disapproves TIITF staff recommendations. The Marine Patrol of DNR and the Dept. of Pollution Control assist in enforcement of regulations.	Cabinet approval required for all aquaculture leases. TIITF staff responsible for enforcement, assisted by Marine Patrol and Game and Fresh Water Fish Commission.	As indicated in references cited, especially Chapter 253.12, Florida Statutes, and Chapter 18.2, Rules of TIITF.	The Dept. of Community Affairs coordinates the Flood Insurance Program which requires that local governments adopt land use controls in such areas to qualify for flood insurance. Under Chapter 253, Florida Statutes, the DNR, Div. of Beaches and Shores is charged with establishing a setback line for coastal construction along the Gulf and Atlantic beach shorelines. Pending Federal legislation would give further support to the state's objectives.	None except isolated local ordinances as authorized by Chapter 69-139, Laws of Florida.	None except in state-owned special use areas, and in some instances, local zoning ordinances.	Div. of Forestry has eminent domain powers for acquiring forest road rights of way or private property judged by the Div. to be suitable and desirable for State Forests. Violation of any rule or regulation adopted by the Game and Fresh Water Fish Commission is punishable as a misdemeanor.	Enforcement is primarily by wildlife officers of the Game and Fresh Water Fish Commission, assisted by local law enforcement officers, Marine Patrol officers, State Park managers, and deputy wildlife officers. National Park rangers participate in enforcement within national parks, memorials and national wildlife refuges.	The Div. of Recreation and Parks has the authority to administer and manage State Parks. A very limited power of eminent domain is available for acquisition of property. Financial assistance is available through the Land & Water Conservation Act of 1965: P.L. 88-578 (78 Stat. 897); 16 U.S.C. 4601; amended by P.L. 90-401. Financial assistance to local government is available through the Dept. of Housing & Urban Development Legacy of Parks Program (Title 4 of P.L. 91-609) and the Land Acquisition Trust Fund.	None at this time.
Needed Legislation	None required at this time.	Current procedures establish aquatic preserves by Cabinet resolution only. Selected aquatic preserves or portions thereof should be included within the State Wilderness System. This would allow them the legislative protection of Chapter 70-355, Laws of Florida.	None at this time.	None at this time.	Legislation is needed to insure that state guidelines for the hurricane flood zone are adhered to by county and municipal authorities.	Legislation is required to prevent unnecessary flood losses caused by unwise development of River Flood Plains and to prevent ecological damage.	Legislation is required to authorize conservation zoning of scenic vistas selected by responsible state agencies and resolve conflicts involving private property rights.	Legislation is required to allow selected high quality timber lands to be zoned as conservation areas. Legislation is also needed to allow designated game management areas to be zoned as conservation areas. Provisions for tax incentives would probably be a necessary part of this legislation.	None at this time.	Legislation is needed to give the Div. of Recreation and Parks broader powers of eminent domain. Tax concessions should be given owners of lands used for public recreation. The Div. of Recreation and Parks has need of further bonding authority.	Legislation is necessary to permit zoning of marginal lands within the conservation category.

* The agencies designated may or may not presently have statutory powers with regard to responsibility to the subcategories.

FIGURE B. CONSERVATION MAP

TABLE C: DEVELOPMENT CRITERIA AND POLICY

ZONING CATEGO

In general, these areas are well-suited for intensive environmentally fragile. However, some presently devel have been recommended for "conservation" or "preser developed. The zoning category "development" doe areas so designated; rather, it indicates that if intensiv restricted to these areas. Zoning for specific uses (inclu areas is recommended to be primarily the responsibilit Specific state criteria will apply to shoreline-uses and " local zoning authorities.

Subcategory	Class IV Waters	Class V Waters	Presently Developed Lands—Non-conflict
Priority Use	Agricultural and industrial water supply	Navigation, utility and industrial use.	Development, according to local desires and needs, utilizing environmental safeguards.
Description	Surface waters designated by the Dept. of Pollution Control for use as agricultural or industrial water supply.	Surface waters designated by the Dept. of Pollution Control for navigation, utility and industrial use. Water quality standards for Class V Waters are the lowest of any applied to surface waters in Florida.	Lands already developed in a manner compatible with the natural environment of the area.
State's Objectives	To prevent degradation of surface waters used for agricultural or industrial activities, and, if possible, to enhance the quality of those waters.	To prevent further degradation of waters so classified, and, if possible, enhance the quality of these waters.	To maintain or improve quality of life in these areas, including public health and welfare.
Responsible State Agencies *	1. Dept of Pollution Control	1. Dept of Pollution Control	1. Dept. of Community Affairs 2. State Bureau of Planning 3. Dept. of Commerce 4. Coastal Coordinating Council 5. Div. of Health, Dept. of Health and Rehabilitative Services 6. Dept. of Pollution Control ~~7. Dept. of Transportation~~ 8. Dept. of Natural Resources 9. Div. of Forestry, Dept. of Agriculture and Consumer Services
How Identified	By Dept. of Pollution Control, Planning Div., according to state water quality criteria.	By Dept. of Pollution Control, Planning Div., according to state water quality criteria.	By the CCC, in cooperation with other agencies, utilizing aerial photography and analysis techniques.
State Policy/Criteria	Definitive criteria for Class IV Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Pollution of Waters.	Definitive criteria for Class V Waters are given in the Rules of the Dept. of Pollution Control, Chapter 17-3, Pollution of Waters. These waters must show decided and definite enhancement no later than January, 1973, and possibly will be reclassified as water quality improves.	The CCC will develop general guidelines and criteria for new shoreline uses and key facilities within these areas.
Existing Support and Controls	Dept. of Pollution Control monitors Class IV Waters and has enforcement powers to stop pollution if the water quality standards are not being maintained.	Dept. of Pollution Control monitors Class V Waters and has enforcement powers to stop pollution if water quality standards are not maintained. The U.S. Army Corps of Engineers is responsible for regulating dumping in navigable water bodies. Reference: Water Quality Improvement Act of 1970 (Public Law 91-224). Florida Air and Water Pollution Control Act (Chapter 403, Florida Statutes). Refuse Act of 1899 (33 U.S.C. 401-413 Sec. 407).	Chapter 70-259, Laws of Florida, charges the CCC with developing ". . . a comprehensive plan for the protection, development and zoning of the coastal zone . . ."
Needed Legislation	None at this time.	None at this time.	Legislation is needed to ensure that state development guidelines are adhered to by county and municipal authorities.

* The agencies designated may or may not presently have statutory powers with regard to responsibility to the subcategories.

Y: DEVELOPMENT

development and are not considered to be
oped areas (classified as "conflict" areas) would
vation" zoning had they not already been
not inherently imply complete development of
development is to occur at all, it should be
ing intensive agriculture) within "development"
of local governments, utilizing state guidelines.
ey facilities" and will serve as standards for

Presently Developed Lands—Conflict	Undeveloped Lands Suitable for Intensive Development	Undeveloped Lands Suitable for Intensive Development with Corrections	Hurricane Flood Zone (Special Shoreline Use Zone)
Those uses allowed in "conservation" areas.	Development, according to local desires and needs, utilizing environmental safeguards.	Development according to local desires and needs, utilizing environmental safeguards.	Uses which require waterfront locations. Non-intensive, low investment uses that will not unnecessarily jeopardize human life or economic welfare. Public recreation.
Lands presently developed that would have been classified "preservation" or "conservation" under CCC planning criteria.	Lands needing little or no modification to make them suitable for development. These areas have elevations, soils, topography and other physical conditions favorable for development (with the addition of proper sanitary facilities).	Lands having some physical limitations but suitable for intensive development with certain modification such as improvement of drainage, installation of sewage collection systems and establishment of central water supplies.	Lands between the shoreline and the 100 year flood line. These areas are subject to flooding during hurricane conditions.
To encourage less intensive use of these areas and discourage future redevelopment in the event that catastrophies such as hurricane winds, flooding, erosion, fire, etc., destroy existing structures.	To assist local planning and zoning officials, developers and landowners in determining those areas best suited to intensive development and assure that development occurs in a fashion that is compatible with the physical environment.	To assist local planning and zoning officials, developers and landowners in determining those areas where intensive development activities will require additional expenditures to become environmentally compatible.	To discourage, in the public interest, through appropriate land use controls, any development in the Hurricane Flood Zone which would unnecessarily jeopardize human life or economic welfare. To prevent development that would have undesirable ecological effects on coastal waters and wetlands.
1. Dept. of Community Affairs 2. Coastal Coordinating Council 3. State Bureau of Planning 4. Div. of Health, Dept. of Health and Rehabilitative Services 5. Dept. of Pollution Control 6. Dept. of Natural Resources 7. Div. of Forestry, Dept. of Agriculture and Consumer Services	As development occurs in these areas, all of the local, state and federal agencies involved in urban areas will become active. Initially, however, the most involved state agencies will be: 1. Dept. of Community Affairs 2. State Bureau of Planning 3. Dept. of Commerce 4. Coastal Coordinating Council 5. Div. of Health, Dept. of Health and Rehabilitative Services 6. Dept. of Pollution Control 7. Dept. of Transportation 8. Dept. of Natural Resources 9. Div. of Forestry, Dept. of Agriculture and Consumer Services	1. Dept. of Community Affairs 2. State Bureau of Planning 3. Dept. of Commerce 4. Coastal Coordinating Council 5. Div. of Health, Dept. of Health and Rehabilitative Services 6. Dept. of Pollution Control 7. Dept. of Transportation 8. Dept. of Natural Resources 9. Div. of Forestry, Dept. of Agriculture and Consumer Services	1. Dept. of Community Affairs 2. Dept. of Natural Resources 3. Coastal Coordinating Council 4. Trustees of the Internal Improvement Trust Fund 5. State Bureau of Planning 6. Dept. of Pollution Control 7. Div. of Health, Dept. of Health and Rehabilitative Services 8. Dept. of Commerce
By the CCC, in cooperation with other agencies, utilizing aerial photography and analysis techniques.	By the CCC, in cooperation with local and regional planning agencies and utilizing analysis techniques developed by the CCC.	By the CCC, in cooperation with local and regional agencies and utilizing analysis techniques developed by the CCC.	Determined through surveys currently being conducted for the U.S. Dept. of Housing and Urban Development in conjunction with its flood insurance program. Surveys are being conducted by several federal agencies.
Local authorities and developers should be alerted to the environmental dangers associated with additional future development in "conflict" areas. Redevelopment after storm damage should be kept to a minimum.	The CCC will develop general guidelines and criteria for shoreline uses and "key facilities" within these areas.	The CCC will develop general guidelines and criteria for "key facilities" that have regional impact.	National Flood Insurance Program criteria apply to all areas below the 100 year flood line. Reference: National Flood Insurance Act of 1968 (42 U.S.C. 4001, 82 Stat. 572) Also: Parts 1909 and 1910 of Subchapter B of Chapter VII of Title 24 CFR.
National Flood Insurance Program Building Codes Chapter 70-259, Laws of Florida, charges the CCC with developing ". . . a comprehensive plan for the protection, development and zoning of the coastal zone . . ."	Under Chapter 70-259, Laws of Florida, the CCC is charged with developing ". . . a comprehensive state plan for the protection, development and zoning of the coastal zone . . ."	Chapter 70-259, Laws of Florida, charges the CCC with developing ". . . a comprehensive plan for the protection, development and zoning of the coastal zone . . ."	The Dept. of Community Affairs coordinates the Flood Insurance Program which requires that local governments adopt land use controls in such areas to qualify for flood insurance. Under Chapter 253, Florida Statutes, the Trustees of the Internal Improvement Trust Fund have authority to control bulkhead lines. Under Chapter 161.053, Florida Statutes, the DNR, Division of Beaches & Shores is charged with establishing a setback line for coastal construction along the Gulf and Atlantic Beach shoreline. Pending federal legislation would give further support to the state's objectives.
Legislation is needed to ensure that state development guidelines are adhered to by county and municipal authorities.	Legislation is needed to ensure that state development guidelines are adhered to by county and municipal authorities.	Legislation is needed to ensure that state development guidelines within these areas are adhered to by county and municipal authorities.	Legislation is needed to ensure that state development guidelines are adhered to by county and municipal authorities.

FIGURE C. DEVELOPMENT MAP

FIGURE D. COMPOSITE ZONING MAP

APPENDIX II

STAFF
COASTAL COORDINATING COUNCIL

Biographical Summaries

Coordinator—Staff Director
BRUCE JOHNSON

Mr. Johnson holds a Master of Science degree in Geology, minor in Land Use Geography from Southern Methodist University. He is a graduate of the Naval Amphibious Intelligence School and the Naval Mine Warfare School and served as a minesweeping officer in the Pacific Theater in World War II.

After the war, he was employed a number of years as a civilian coastal analyst, later coordinator, with the Amphibious Unit of the Office of Naval Intelligence doing coastal studies around the fringe of the Eurasian land mass from Europe through the Middle East to Korea. As part of this work, Mr. Johnson authored or edited coastal studies on fourteen countries which were published as chapters in the National Intelligence Surveys Program. He later was a coastal consultant for the Office of Naval Research and the Arctic Institute of North America in Spitsbergen in the Norwegian Arctic, and for the government of Pakistan where he trained and established an amphibious intelligence unit for the Pakistan Navy.

Mr. Johnson was a resident for many years of the Isle of Pines, Cuba before the Castro revolution, where he developed a winter season hunting and fishing business for sportsmen. More recently, he served as administrative assistant to the Chairman of the Physical Sciences Division of the Institute of Marine Sciences, University of Miami, and then was employed as Oceanographic Coordinator, later Executive Director of the Florida Commission on Marine Sciences and Technology.

His present position is Coordinator and Staff Director of the Florida Coastal Coordinating Council, where he serves as Florida's alternate delegate to the Coastal States Organization.

Research Coordinator
F. R. BARLOGA

Mr. Barloga has for almost 16 years directed R&D and systems analysis projects associated with oceanography, acoustics, seismic refraction, and range operations and instrumentation, including computing systems. He hold a B. S. degree in physics from Virginia Polytechnic Institute and did his graduate work in marine geophysics at Columbia University and in oceanography at the Navy Oceanographic Office. Since January, 1971, he has been Research Coordinator for the Coastal Coordinating Council, determining research requirements for a systems approach to land and marine resources use. He is the Florida delegate to the National Governor's Conference on Science and Technology.

Formerly, he was head of the Ocean Technology Group of RCA. In addition, for seven years he directed operations of the U.S. Navy's St. Croix Tracking Range for RCA, supervising collection of oceanographic data, advising Navy personnel, and developing and improving range instrumentation and operations. He previously conducted research for the U.S. Navy diving program, engineering evaluation of acoustic systems of the USAF Eastern Test Range as the Range Oceanographer, sound systems research for the Naval Research Lab, and seismic refraction and deep scattering layer studies for Columbia University and Woods Hole Oceanographic Institute. He has authored in excess of ninety publications and reports in the field of marine R, D, T, & E.

Agency Coordinator
THOMAS D. WALKER

Mr. Walker is a graduate of Florida State University, holding a Bachelor of Arts degree in History and Geography, and a Master of Science degree in Geography from that university. His Master's thesis was entitled "Beach Erosion in Florida, with a Case Study of Fort Pierce, Florida," and dealt with various problems related to coastal areas of the state. He is currently the Agency Coordinator for the Coastal Coordinating Council, and is involved in maintaining liaison between the Council and federal, state, and local agencies.

After two years as Community Planner for the Florida Development Commission, Mr. Walker accepted the position of Planning Director of the ten-county Northwest Florida Development Council and Economic Development District. He remained in Northwest Florida for three years and while there was instrumental in writing the Initial Overall Economic Development Program for the ten counties. He also assisted local communities and counties in obtaining over $2-million in federal grants and loans for economic development projects.

In 1970 Mr. Walker accepted a position as Area Coordinator for the North Florida Manpower and Economic Development Alliance, Inc., coordinating and promoting various federal programs. While there, he wrote a program for senior citizens of North Florida which was funded in the amount of $80,000.

Mr. Walker began work in his special field of interest, coastal planning and management, upon joining the staff of the Coastal Coordinating Council as Agency Coordinator in April 1971.

Information Coordinator

MARY LOU STURSA

Mrs. Stursa has a Master of Science degree in Library/Information Science from Florida State University and a Bachelor of Science degree in bacteriology and biochemistry from the University of Wisconsin. She has been serving the Coastal Coordinating Council as librarian, Newsletter editor, and information specialist since July 1, 1971.

Before joining the Council staff, she had been an instructor in the School of Library Science at Florida State University. Previous to that she served as Research Librarian for the Florida Department of Commerce.

Mrs. Stursa has served as a research associate on an information retrieval and computer indexing project sponsored by the U.S. Air Force and has co-authored several publications resulting from that work. Other publications include articles on continuing education for special librarians and circulation of reserve materials in libraries. Since coming to work with the Coastal Coordinating Council, she has compiled a bibliography on thermal pollution, thermal effluents, and power plants.

Previous to her information science work, Mrs. Stursa had worked as a research technician on projects in plant physiology, electron microscopy, and radiation genetics.

Planning Coordinator

LOUIS C. BURNEY

Mr. Burney received Air Force training as an air surveillance technician and served in that capacity for four years. His tour of military service included two years in Japan where he helped train members of Japan's self-defense force in the operation of their military radar network.

He earned his A.A. degree with a major interest in Marine Biology at St. Petersburg Junior College, after which he transferred to Florida State University where he earned a B.S. degree in Geography with a minor in Biological Sciences. For his Master's thesis, Mr. Burney did an in-depth analysis of the trends, conflicts, and potentials of land use in Indian River County, which has direct application to coastal zone planning and management in Florida.

After graduation from Florida State University, Mr. Burney became the first land use planner for the Trustees of the Internal Improvement Trust Fund. His duties there included development of a system for inventorying state lands, review of coastal development plans involving sovereignty lands, and making recommendations concerning appropriate actions relating to major dredge and fill projects.

Mr. Burney has been a planner with the Coastal Coordinating Council since its formation in 1970. He is co-author of the publication *ESCAROSA: A Preliminary Study of Coastal Zone Management Problems and Opportunities in Escambia and Santa Rosa Counties, Florida.*

Since being on the Council's staff, Mr. Burney has been an active member of several committees, including the Committee for Re-evaluation of State Fill Material, the Interagency Advisory Committee on the State Wilderness System, and the Mean High Water Mark Study Team.

Coastal Planner—Cartographer

LAWRENCE D. BOBO

Mr. Bobo has completed course requirements for an M.S. degree in Geography from Florida State University and is presently completing his thesis work. His thesis involves the development of the computerized ownership map and its applications in land use analysis. He has a B.A. degree in Geography, with a minor in Mathematics from Florida State. He has had considerable experience in quantitative analysis, cartography, and computer mapping techniques, especially as applied to land use problems. While with the Coastal Coordinating Council, he has been serving in a Coastal Planner/Cartographer position and working on the Preservation, Conservation, Development and General Zoning Maps of Escarosa.

While a graduate student, he constructed the maps available in the Escarosa pilot study, the basic Escarosa physical inventory maps, and the SYMAPS of Escarosa's population characteristics. Mr. Bobo also did other grant work with the Florida Resources Analysis Center at Florida State University. Previous to graduate study, he was a Planning Technician-Planner I with the Tallahassee-Leon County Planning Department.

In early undergraduate work, Mr. Bobo worked as an Industrial Engineering Co-operative Student from Virginia Polytechnic Institute with E. I. DuPont Company at their Orlon plant in South Carolina. He has served as a biological aide with the Florida State Department of Health doing Dog Fly Control work in Panama City.

Coastal Planner

TERRY E. LEWIS

Mr. Lewis has a Master of Arts degree in geography and a Bachelor of Arts degree in geography and history from Florida State University. He has completed his course work and is currently in the final stages of his thesis for the Ph.D. degree which should be conferred in January 1972 from the University of Kansas. His research interests include population geography, resource planning, conservation, ecology, and agrarian reform.

He has had experience in both planning and education. Mr. Lewis has been a geography and history instructor at Florida State University, Seminole Junior College in Sanford, Florida, and Lyman High School in Longwood, Florida.

His planning experience includes work as an assistant city planner for the City of Tallahassee; as a planner and technical writer for the Florida Outdoor Recreation and Planning Commission, where he helped prepare a plan for the inventory of outdoor recreation facilities in the state; and as a human resources planner at the University of San Carlos in Guatemala City, Guatemala.

Mr. Lewis was co-author of a research study on land use in the Disney World and surrounding area. He is a member of the Southeastern Geographers Association, and the Association of American Geographers.

Cartographer

WAYNE T. ASHMORE

Mr. Ashmore accepted a position as a Cartographer with the Coastal Coordinating Council in September 1971. He is presently working toward a B.A. degree in Geography at Florida State University while working for the Council.

Previous to joining the Council staff, Mr. Ashmore attended college for two years and then embarked on a ten-year career as a Cartographic Technician for various state and federal agencies. His initial job in the cartographic field was with the Florida Department of Transportation, where he gained experience collecting data and constructing state road maps. In 1963, he accepted a position as a Cartographic Technician with the U.S. Geological Survey in Washington, D.C. In addition to gaining further knowledge of the cartographic field, experience was acquired in photo interpretation. After three years with the Survey, Mr. Ashmore received an offer of a position with the Army Corps of Engineers in Kansas City, Missouri. While there, he constructed maps and wrote property descriptions of land to be acquired by the federal government in dam site areas. His most recent job prior to joining the Coastal Coordinating Council staff was a five-year stay with the U.S. Coast and Geodetic Survey in Washington, D.C. During his last year there, he was supervisor of the Cartographic Section.

Senior Secretary—Administrative Assistant

ROSE M. HARVEY

Mrs. Harvey, a native of Tallahassee, is a graduate of Florida State University and holds a Bachelor of Science degree in Commerce, minor in Economics. She has been employed as a secretary in the Department of Natural Resources for ten years.

Following graduation, she was employed for six years as secretary in the Administration and Finance Division of the State Department of Education, where she worked closely on preparation of the Minimum Foundation Program for Florida's schools. She later became personal secretary to the Assistant Director of Administration and Finance, who had direct charge of the School Bond Program.

She has served as secretary to House of Representatives members during two sessions of the Florida Legislature and also worked in a special secretarial capacity for the late Supreme Court Justice Hobson during one legislative session.

Mrs. Harvey began her employment with the Board of Conservation, now the Department of Natural Resources, in February 1962 as personal secretary to the Director of Education and Information, who also served as Administrative Assistant to the Conservation Director. She worked in this capacity for eight years, during which time in addition to her other duties, she also was secretary to the Florida Boating Council. She joined the staff of the Coastal Coordinating Council upon its creation in September 1970 as senior secretary to the Coordinator. She also acts as administrative assistant to the Council in handling administrative procedures.

Consultant

BARRY LESSINGER

Mr. Lessinger has a Bachelor of Arts degree in English from the University of Vermont, a Bachelor of Law degree from the Brooklyn Law School, and will receive his Master of Ocean Law degree from the University of Miami Law School in January 1972. His major fields of study include coastal zone law, international law and admiralty law.

From 1964 to 1970, he was a partner in the law firm of Krashes, Leyden and Lessinger in Spring Valley, New York, where his primary responsibilities were in the

field of real estate planning and development. During this period, he was active in a number of legal organizations.

While at the University of Miami, Mr. Lessinger has been employed by the University as a Research Scientist in the Ocean Law Program and has been an on-site investigator at the Mississippi Test Facility for Legal, Economic, and Social Science Data. In this position, he has been responsible for integrating legal, economic, and social science data in the design of an environmental data management system utilizing computer support.

His thesis is concerned with the legal problems of and proposals for ocean dumping. He has authored or co-authored several papers on coastal zone legal problems and has been the legal advisor of a seminar on the legal and scientific aspects of coastal development.

Mr. Lessinger is presently doing work on the CCC/University of Miami contract for a Coastal Law Inventory of Escarosa. He is expected to join the Council staff sometime in mid-1972.

Consultant

JAMES LEE GUERNSEY

Dr. Guernsey holds a B.S. degree from Indiana State University, an M.A. degree from Indiana University and received his Ph.D. from Northwestern University in 1953. He has 23 years of teaching and administrative experience that includes Indiana State University, University of Louisville, Indiana University and Michigan State University. From 1968 to the present time, he has served as Director of the River Basin Research Center at Indiana State University.

He has authored or co-authored four college textbooks, his latest being the Third Edition of *Conserving American Resources;* 32 professional papers published in 13 different scientific journals; and 12 research monographs. His areas of specialization include regional planning, land use and resource management. He has done consultant work with various county and city planning commissions and written several planning reports. Dr. Guernsey has received research grants from the Kentucky Strip Mine and Reclamation Commission, City Planning Associates, Battelle Memorial Institute, Resources for the Future, Wabash Valley Interstate Commission, and the Vigo County Planning Department.

In September 1970, he took a special year's leave of absence from his directorship at Indiana State University to come to Florida and gain practical experience in working with coastal resource management problems. He audited classes in regional and metropolitan planning at Florida State University and joined the staff of the Coastal Coordinating Council in October 1970 as consultant, specifically charged with advising the staff on the utilization of the 1970 Census data in coastal planning.